

## **QUESTION 1: TOTAL WEBSITE SESSIONS & DAILY TRAFFIC TREND**

### **Business Question:**

How has website traffic changed over time?

### **What I did in the query:**

I grouped all website sessions by date and counted how many sessions happened each day.

### **Why this logic:**

Grouping by date helps observe long-term growth instead of random daily fluctuations.

### **Result / Insight:**

Traffic started around 100–200 sessions per day and gradually increased to 900–1000+ sessions per day.

### **Business Meaning:**

The consistent rise in daily sessions suggests that marketing strategies and product–market fit are working well and driving steady growth.

## **QUESTION 2: PAGEVIEW BEHAVIOR ANALYSIS**

### **2(a) — Most Viewed Pages**

### **Business Question:**

Which pages users view the most on the website?

### **What I did:**

I counted pageviews per page URL and ranked them in descending order.

### **Why:**

This shows where users spend most of their attention.

### **Insight:**

Product-related pages receive the highest number of views.

**Business Meaning:**

Users actively engage with product pages, making them the most visited on the website.

## 2b — Average Pageviews per Session

**Business Question:**

How deeply do users engage in a single session?

**What I did:**

I calculated total pageviews divided by total sessions.

**Why:**

This measures engagement depth per visit.

**Insight:**

On average, users view about **2–3 pages per session**, which indicates **moderate engagement**.

**Business Meaning:**

Users usually go beyond the first page to find relevant content but don't explore too deeply. This engagement can be improved by **better internal linking** or **more relevant content recommendations**.

## 2c — Top Landing Pages

**Business Question:**

Identify the pages users most frequently land on when starting a session

**What I did:**

"I identified the first pageview per session using  $\text{MIN}(\text{website\_pageview\_id})$ , and then calculated total sessions for each page to determine how often that page was the landing page."

**Why:**

Each session has multiple pageviews, but only the first defines the landing page.

**Insight:**

Homepage is the top entry point, followed by campaign landing pages.

**Business Meaning:**

Both organic and campaign-driven traffic strategies are working.

**QUESTION 3: SESSION → ORDER CONVERSION FUNNEL****3a — Overall Conversion Rate****Business Question:**

Out of all sessions, how many convert into orders?

**What I did:**

I counted distinct sessions and distinct orders, then divided orders by sessions and rounded it to two decimal places to get the session-to-order conversion rate..

**Insight:**

Overall conversion rate is ~6.83%.

**Business Meaning:**

While traffic volume is strong, but the relatively low conversion rate indicates that a large portion of users exit the website before making any purchases. This means we can improve how users move through the website and make the buying process smoother.

**3b — Funnel Drop-Off Analysis****Business Question:**

At which stage do users leave before completing a purchase?

**What I did:**

I counted distinct sessions reaching product, cart, checkout, and order stages using CASE WHEN.

**Insight:**

Largest drop-off occurs between product view and cart addition.

**Business Meaning:**

Users browse products but hesitate to commit. “This could be due to pricing(too high) unclear product details, or lack of trust.”

### **3c — Step-by-Step Funnel Conversion**

#### **Business Question:**

How efficiently do users move between funnel stages?

#### **What I did:**

I calculated conversion percentages between each funnel step.

#### **Insight:**

Product → Cart is the weakest stage, The weakest conversion point is product view → cart, while later stages show relatively strong performance. Once users add items to the cart, more than half successfully complete their purchase

#### **Business Meaning:**

Improving product pages can increase revenue without increasing traffic.

## **QUESTION 4: REVENUE & PROFIT ANALYSIS**

### **4a — Total Revenue**

#### **Business Question:**

How much revenue did the business generate?

#### **What I did:**

I summed price\_usd from order\_items.

#### **Insight:**

Total revenue  $\approx \$1.94M$ .

#### **Business Meaning:**

The business generated approximately **\$1.94M in revenue** during the analyzed period.

### **4b — Total COGS**

#### **Business Question:**

What are the direct costs of sold products?

**What I did:**

I summed cogs\_usd from order\_items.

**Insight:**

Total COGS  $\approx$  \$722K.

**Business Meaning:**

This represents the cost to fulfill orders.

**4c — Total Profit (Profit = Selling Price (SP) – Cost Price (CP))****Business Question:**

Is the business profitable?

**What I did:**

I calculated revenue minus COGS.

**Insight:**

Total profit  $\approx$  \$1.22M.

**Business Meaning:**

“The company makes good profit on each product it sells.”

**QUESTION 5: PRODUCT PERFORMANCE RANKING****5a — Revenue per Product****Business Question:**

Which products generate the most revenue?

**What I did:**

I grouped revenue by product name and ranked it.(productid as foreign key and inner join used)

**Insight:**

The Original Mr. Fuzzy dominates revenue.

**Business Meaning:**

This shows that the The Original Mr. Fuzzy is doing very well, but the

business depends a lot on it. Growing other products could reduce this dependency

## 5b — Quantity Sold per Product

### **Business Question:**

Which products sell the most units?

### **What I did:**

I counted order items per product.

### **Insight:**

The Original Mr. Fuzzy also sells the highest volume. This confirms that its revenue dominance is driven by strong demand rather than higher pricing alone.

### **Business Meaning:**

This shows that customers consistently prefer this product. Other products sell less, so promotions or better positioning could help improve their sales.

## 5c — Profit per Product

### **Business Question:**

Which products generate the most profit?

### **What I did:**

I calculated revenue minus COGS per product.

### **Insight:**

The Original Mr. Fuzzy is also the most profitable.

### **Business Meaning:**

Most of the profit comes from one product, which shows pricing and costs are working well. But it would be safer to grow profits from other products too

## QUESTION 6: USER BEHAVIOR

## **6a — User Distribution**

### **Business Question:**

How many users are new vs repeat?

### **What I did:**

I classified users based on number of orders.

### **Insight:**

Most users are new; fewer are repeat.

### **Business Meaning:**

The business is good at getting new customers, but needs to do better at keeping/sustaining them

## **6b — Orders per User**

### **Business Question:**

Do repeat users buy more?

### **What I did:**

I calculated average orders per user type.

**Insight:** New users place 1 order on average, while repeat users place 2.04 orders per user.

### **Business Meaning:**

Repeat customers are more valuable, so we should focus on retention strategies

## **6c — Revenue per User**

### **Business Question:**

Who generates more revenue per user?

### **What I did:**

I calculated average revenue per user type.

### **Insight:**

Repeat users generate nearly double revenue.

**Business Meaning:**

Retention directly boosts revenue.

**QUESTION 7: CHANNEL PERFORMANCE****7a — Sessions by Channel**

**Objective:** Understand which marketing channels drive the most website traffic.

**What I Did:**

I grouped website sessions by utm\_source and counted total sessions for each channel.

**Insight:**

Google Search drives the most traffic.

**Business Meaning:**

Most users come through paid search, while social media brings in much less traffic.

**7b — Orders by Channel****Objective**

Identify which channels generate the most completed purchases(actualy order).

Session means only visit may or may not purchased.

**What I Did**

I joined website sessions with orders and grouped total orders by utm\_source.

**Insight:**

Google Search generates the most orders.

**Business Meaning:**

Google Search traffic converts at a higher rate than other channels, indicating users coming via search already have purchase intent.

**7c — Revenue by Channel****Objective**

Measure how much revenue each marketing channel contributes.

**What I Did**

I aggregated total revenue by joining sessions, orders, and order items, grouped by utm\_source.

**Insight:**

Google Search generates the most revenue.

**Business Meaning:**

Google Search is the most valuable channel in absolute revenue terms and should remain a core focus for marketing spend.

**7d — Conversion Rate by Channel****Objective**

Compare how efficiently each channel converts traffic into orders.

**What I Did**

I calculated conversion rate for each channel by dividing total orders by total sessions.

**Insight:**

Bing converts better, but at lower volume.

**Business Meaning:**

Bing traffic is high quality despite smaller scale.

**QUESTION 8: REFUND IMPACT ANALYSIS**

## **8a — Total Refund Loss**

### **Objective:**

Quantify how much revenue the business loses due to refunded orders.

### **What I Did:**

I calculated total refund amounts from the order item refunds table.

### **Insight:**

~\$85K lost due to refunds.

### **Business Meaning:**

Refunds directly reduce net revenue. While some are expected, tracking refund trends helps us identify avoidable losses and improve overall efficiency.

## **8b — Refund Rate per Product**

### **Objective:**

Identify products that are getting refunded much more often compared to how much they sell.

### **What I did:**

I calculated refund rate per product by dividing refunded items by total items sold.

### **Insight:**

Birthday Sugar Panda has the highest refund rate.

### **Business Meaning:**

High refund rates may indicate product quality issues, customer expectation mismatch, or packaging/shipping problems. These products should be prioritized for root-cause analysis to reduce future refunds.

## **8c — Refund Amount per Product**

### **Objective:**

Identify which products are causing the biggest revenue loss because of refunds

### **What I Did**

I aggregated total refund amount by product and ranked them in descending order.

### **Insight:**

**The Original Mr. Fuzzy** causes the highest refund loss in dollars.

### **Business Meaning:**

Products with large refund amounts pose the biggest revenue risk, and even small reductions in refunds for these high-volume products can lead to meaningful gains.

## **QUESTION 9: MONTHLY PERFORMANCE TRENDS**

### **9a — Monthly Sessions**

### **Objective:**

Understand how website traffic has evolved over time on a monthly basis.

### **What I Did:**

I grouped website sessions by month and counted total sessions per month.

### **Insight:**

Monthly sessions show a **strong and consistent upward trend**, increasing from **under 2,000 sessions per month in early 2012** to **over 25,000 sessions per month by early 2015**.

### **Business Meaning:**

The steady growth suggests we're building long-term traffic and brand visibility, not just seeing temporary campaign effect

## **9b — Monthly Orders**

### **Objective:**

Analyze how customer purchases have changed month by month.

### **What I Did:**

I grouped total orders by month and tracked order growth.

### **Insight:**

Monthly orders increase steadily from **under 100 orders per month in early 2012** to **over 2,000 orders per month by late 2014**.

### **Business Meaning:**

The growth in orders closely follows traffic growth, suggesting that the incoming traffic remained high quality and continued to convert into purchases

## **9c — Monthly Revenue**

### **Objective:**

Evaluate how total revenue has evolved over time.

### **What I Did:**

I aggregated total revenue by month.

### **Insight:**

Monthly revenue shows a **clear upward trajectory**, growing from **below \$5K per month in early 2012** to **over \$140K per month by late 2014**.

### **Business Meaning:**

Revenue growth reflects not only increasing traffic and orders but also improved monetization and business scalability over time.

## **9d — Monthly Conversion Rate**

**Objective:**

Measure how efficiently website traffic converts into orders over time.

**What I Did:**

I calculated monthly conversion rates by dividing orders by sessions.

**Insight:**

Monthly conversion rate improves steadily from around **3–4% in early 2012** to **over 8% by early 2015**, indicating a significant improvement in purchase efficiency.

**Business Meaning:**

The increase in conversion rate indicates that the website is getting better at turning visitors into customers. This usually reflects improvements in user experience, clearer product positioning, or fixes in the purchase funnel — not just more traffic

## **QUESTION 10: DEVICE TYPE IMPACT**

### **10a — Sessions**

**Objective:**

To understand where website traffic is coming from based on device type — mainly desktop vs mobile

**what I did:**

I grouped website sessions by device type to see how traffic is split across devices.

**Insight:**

Desktop users generate most of the website sessions, while mobile users contribute a smaller but noticeable share.

**Business Meaning:**

This tells us that the website is currently more desktop-driven. However,

mobile traffic is still meaningful, so improving the mobile experience could help the business grow further.

## 10b — Orders

### **Objective:**

Compare how many orders are placed from each device type.

### **What I Did**

I grouped total orders by device type.

### **Insight:**

Although mobile also generates good traffic, desktop users convert at a much higher rate, resulting in more completed orders.

### **Business Meaning:**

This suggests desktop users are more comfortable completing purchases, while mobile users may face friction or drop off during the buying process

## 10c — Revenue

### **Objective:**

Analyze how much revenue each device type contributes.

### **What I Did:**

I aggregated total revenue by device.

### **Insight:**

Desktop generates the majority of total revenue compared to mobile, which matches its higher order volume and stronger purchase behavior.

**Business Meaning:** Desktop currently drives most revenue due to stronger conversion. However, the revenue gap suggests mobile users may face friction, making mobile optimization a key opportunity for incremental growth.

## 10d — Conversion Rate

### **Objective:**

Compare conversion efficiency between mobile and desktop users.

### **What I Did**

I calculated conversion rates for desktop and mobile users.

### **Insight:**

Desktop converts at a much higher rate than mobile. Despite mobile contributing a large number of sessions, its conversion rate is much lower compared to desktop.

### **Business Meaning:**

This gap highlights a clear opportunity to improve mobile performance. Optimizing mobile UX, checkout flow, and page speed could unlock significant incremental revenue without increasing traffic spend.